IN THE CLAIMS:

Claim 1.   (Amended) A method of sorting a group of objects in accordance with an

ascending sequence or a descending sequence of order numbers which are assigned to

the objects, comprising:

subjecting the group of objects being subjected in a plurality of successive sorting

steps to a sorting treatment, comprising:

depending on a sorting criterion as to whether an the order number of a the

respective object has or would have a zero or a one in its binary representation at a

point that depends on a the relevant sorting step of said successive sorting steps,

allocating the respective object to a respective first storage area or a respective second

storage area for sorting treatment in a the next sorting step of said successive sorting

steps, further including providing each sorting step of said successive sorting steps with

a new pair of first and second storage areas such that storage areas of each sorting step

of said successive sorting steps serve as separate source storage areas for subsequent

steps of said successive sorting steps,

a least significant digit of the order number in a the binary representation being

relevant for said the sorting criterion in a the first sorting step of said successive sorting

steps, and for each next sorting step of said successive sorting steps, a the respective

next most significant digit in the order number in the binary representation being relevant

for said the sorting criterion, in the successive further sorting step,

beginning at a the second sorting step of said successive sorting steps, either a

storage area sequence of first all the objects from a the respective first storage area of

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said second sorting step and then the objects from a ~~the~~ respective second storage area of said second sorting step or of first all the objects from the respective second storage area of said second sorting step and then the objects from the respective first storage area of said second sorting step being subjected to the sorting treatment, and maintaining said ~~the relevant~~ storage area sequence for all further sorting steps of said successive sorting steps so as to maintain the storage area sequence in which the objects were supplied to the respective first and second storage areas of ~~in~~ the preceding sorting step.

Claim 2.   (Previously Amended) The method as claimed in claim 1, further including subdividing the group in at least one preparation step into a subgroup of objects whose order number is less than a relevant predetermined number, and into a group of objects whose order number is equal to or greater to the predetermined number, and sorting each subgroup.

Claim 3.   (Previously Amended) The method as claimed in claim 2, further including combining the subgroups in order after being sorted.

Claims 4 and 5.   (Previously Cancelled).

Claim 6.   (Previously Amended) A sorting device for sorting objects in accordance with the method as claimed in claim 1, the sorting device being part of a suspension

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conveying device, in which conveyed goods carriers are moved and guided on guide

rails, along relevant conveying paths, as transport means for the objects, the sorting

device comprising the following features:

a first conveying path section to be used as a first destination storage area (ZS1)

and a second conveying path section to be used as a second destination storage area,

a conveying path section to be used as a first source storage area (QS1) and a

conveying path section to be used as a second source storage area (QS2) for providing

the objects located on conveyed goods carriers for sorting treatment during a respective

sorting step,

at least one diverter device (W) between the source storage areas (QS1, QS2)

and the destination storage areas (ZS1, ZS2),

at least one data reading device (L), provided close to the diverter device (W), for

registering order numbers of objects which are supplied to the diverter device (W),

a control device (S) that receives order number information from the data reading

device (L) and which is set up to control the supply of the conveyed goods carriers with

objects located on them to the diverter device (W) and to control the diverter position of

the diverter device (W) in such a way that, according to the sorting criterion as to

whether the order number of the object respectively fed to the diverter device (W) has or

would have a zero or a one in its binary representation at a point that depends on the

relevant sorting step, the relevant objects in the sorting steps being supplied to the first

destination storage area (ZS1) and from there to the first source storage area (QS1) or

to the second destination storage area (ZS2) and from there to the second source

storage area (QS2) for sorting treatment in the next sorting step, the least significant

digit of the order number in the binary representation being relevant for the sorting

criterion in the first sorting step and the respective next most significant digit in the order

number in the binary representation being relevant for the sorting criterion in the

successive further sorting steps and, beginning at the second sorting step, either first all

the objects from the first source storage area (QS1) and then the objects from the

second source storage area (QS2) or first all the objects from the second source storage

area (QS2) and then the objects from the first source storage area (QS1) - maintaining

the relevant source storage area sequence for all further sorting steps - being supplied

to the diverter device (W).

Claim 7. (Previously Amended) The sorting device as claimed in claim 6, the

destination storage areas (ZS1, ZS2) and the source storage areas (QS1, QS2) are

provided in conveying circuits (50i, 50a) which are connected to one another via the

diverter device (W).

Claim 8. (Previously Added) The method as claimed in claim 1, further including

providing a plurality of said first storage areas (21, 31, 41 ...) aligned end-to-end and a

plurality of said second storage areas (22, 32, 42 ...) aligned end-to-end so that said

successive sorting steps are carried out in different storage areas arranged in end-to-

end relationships.

Claim 9. (Previously Added) The method as claimed in claim 8, further including providing said plurality of said first storage areas (21, 31, 41 ...) aligned end-to-end in a generally linear relationship and said plurality of said second storage areas (22, 32, 42 ...) aligned end-to-end in a generally linear relationship so that said successive sorting steps are carried out along a generally linear path.

Claim 10. (Previously Added) A method of sorting a group of objects in accordance with a sequence of order numbers assigned to the objects, comprising:

in a first sorting step, allocating a respective object into to a first storage area or into a second storage area based on a value of zero or one in a binary bit or remainder interrogation,

in a second sorting step, allocating a respective object into said first or second storage area in a storage area sequence of first objects from one of said first or second storage areas and then objects from the other of said first or second storage areas based on a value of zero or one in a binary bit or remainder interrogation,

in later sorting steps, allocating respective objects into said first or second storage areas, while maintaining the storage area sequence of the second sorting step, based on a value of zero or one in a binary bit or remainder interrogation, and

providing the group of objects to be sorted in the range of between 0 and 2^N-1, wherein N is the number of sorting steps.

Claim 11. (Previously Added) The method as claimed in claim 10, further including providing separate first storage areas and separate second storage areas in a plurality of said sorting steps.

Claim 12. (Previously Added) The method as claimed in claim 11, further including providing separate diverter devices in between a plurality of said storage areas.

Claim 13. (Previously Added) The method as claimed in claim 11, further including providing a plurality of first storage areas along a first generally linear path and a plurality of second storage areas along a second linear path.

Claim 14. (Previously Added) A method of sorting a group of objects in accordance with a sequence of order numbers assigned to the objects, comprising:

in a first sorting step, allocating a respective object into to a first storage area or into a second storage area based on a value of zero or one in a binary bit or remainder interrogation,

in a second sorting step, allocating a respective object into said first or second storage area in a storage area sequence of first objects from one of said first or second storage areas and then objects from the other of said first or second storage areas based on a value of zero or one in a binary bit or remainder interrogation,

in later sorting steps, allocating respective objects into said first or second storage areas, while maintaining the storage area sequence of the second sorting step, based on a value of zero or one in a binary bit or remainder interrogation, and

further including comparing a sorting state with a desired sorting state and upon the occurrence of an error repeating said sorting steps.

Claim 15. (Previously Added) The method as claimed in claim 14, further including providing separate first storage areas and separate second storage areas in a plurality of said sorting steps.

Claim 16. (Previously Added) The method as claimed in claim 15, further including providing separate diverter devices in between a plurality of said storage areas.

Claim 17. (Previously Added) The method as claimed in claim 15, further including providing a plurality of first storage areas along a first generally linear path and a plurality of second storage areas along a second linear path.

Claim 18. (Previously Added) A method of sorting a group of objects in accordance with a sequence of order numbers assigned to the objects, comprising:

in a first sorting step, allocating a respective object into to a first storage area or into a second storage area based on a value of zero or one in a binary bit or remainder interrogation,

in a second sorting step, allocating a respective object into said first or second storage area in a storage area sequence of first objects from one of said first or second storage areas and then objects from the other of said first or second storage areas based on a value of zero or one in a binary bit or remainder interrogation,

in later sorting steps, allocating respective objects into said first or second storage areas, while maintaining the storage area sequence of the second sorting step, based on a value of zero or one in a binary bit or remainder interrogation, and

further including subdividing the group in at least on preparation step into a subgroup of objects whose order number is less than a relevant predetermined number, and into a group of objects whose order number is equal to or greater than the predetermined number, and each subgroup being sorted.

Claim 19. (Previously Added) A method as claimed in claim 18, further including combining the subgroups in order after being sorted.

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Claim 20. (Previously Added) The method as claimed in claim 18, further including providing a plurality of first storage areas along a first generally linear path and a plurality of second storage areas along a second linear path.

Claim 21. (Previously Added) An apparatus for sorting a group of objects in accordance with a sequence of order numbers assigned to the objects, comprising:

means for, in a first sorting step, allocating a respective object into to a first storage area or into a second storage area based on a value of zero or one in a binary bit or remainder interrogation,

means for, in a second sorting step, allocating a respective object into said first or second storage area in a storage area sequence of first objects from one of said first or second storage areas and then objects from the other of said first or second storage areas based on a value of zero or one in a binary bit or remainder interrogation,

means for, in later sorting steps, allocating respective objects into said first or second storage areas, while maintaining the storage area sequence of the second sorting step, based on a value of zero or one in a binary bit or remainder interrogation,

wherein the group of objects to be sorted is in the range of between 0 and 2^N-1, wherein N is the number of sorting steps.

Claim 22. (Previously Added) An apparatus according to claim 21, further including independent first and second storage areas for each sorting step, such that each first

and second storage area serves as separate source storage areas for subsequent steps.

Claim 23. (Previously Added) An apparatus for sorting a group of objects in accordance with a sequence of order numbers assigned to the objects, comprising:

a plurality of independent first storage areas aligned together and a plurality of independent second storage areas aligned together;

a plurality of diverters for diverting objects between subsequent ones of said first and second storage areas,

a controller configured to control one diverter to, in a first sorting step, allocate a respective object into to one of said first or said second storage areas based on a value of zero or one in a binary bit or remainder interrogation, to control another diverter to, in a second sorting step, allocate a respective object into another of said first or second storage areas in a storage area sequence of first objects from one of said first or second storage areas and then objects from the other of said first or second storage areas based on a value of zero or one in a binary bit or remainder interrogation, and to control other diverters, in later sorting steps, to allocate respective objects into other first or second storage areas, while maintaining the storage area sequence of the second sorting step, based on a value of zero or one in a binary bit or remainder interrogation.